

1. An isolated nucleic acid molecule comprising a nucleotide sequence encoding an RDE-1 polypeptide, wherein the nucleic acid molecule hybridizes under high stringency conditions to the nucleic acid sequence of Genbank Accession No. AF180730 (SEQ ID NO:2) or its complement, or nucleic acid sequence set forth in SEQ ID NO:1 or its complement.

2. The isolated nucleic acid of claim 1, wherein the nucleic acid can complement an rde-1 mutation.

3. An isolated nucleic acid of claim 1, wherein the nucleotide sequence encodes the amino acid sequence of SEQ ID NO:3.

4. A substantially pure RDE-1 polypeptide encoded by the isolated nucleic acid of claim 1.

5. An antibody that specifically binds to an RDE-1 polypeptide.

6. A method of enhancing the expression of a transgene in a cell, the method comprising decreasing activity of the RNAi pathway.

7. The method of claim 6, wherein *rde-2* expression or activity is decreased.

8. An isolated nucleic acid molecule comprising a nucleotide sequence encoding an RDE-4 polypeptide, wherein the nucleic acid molecule hybridizes under high stringency conditions to the nucleic acid sequence of SEQ ID NO:4 or its complement.

9. The isolated nucleic acid of claim 8, wherein the nucleic acid can complement an rde-4 mutation.

10. An isolated nucleic acid of claim 8, wherein the nucleotide sequence encodes the amino acid sequence of SEQ ID NO:5.

11. A substantially pure RDE-4 polypeptide encoded by the isolated nucleic acid of claim 8.

12. An antibody that specifically binds to an RDE-4 polypeptide.

13. A method of preparing an RNAi agent, the method comprising incubating a dsRNA in the presence of an RDE-1 protein and an RDE-4 protein.

14. A method of inhibiting the activity of a gene, the method comprising introducing an RNAi agent into a cell, wherein the dsRNA component of the RNAi agent is targeted to the gene.

1 15. The method of claim 14, wherein the cell contains exogenous RNAi
2 sequences.

1 16. The method of claim 14, wherein the exogenous RNAi sequence is an RDE-1
2 polypeptide or an RDE-4 polypeptide.

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